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Specialty Crop Block Grant Program
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Final Performance Report
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Project 1-TN Farm Fresh Brand

Need for a grant:

The Tennessee Farm Fresh (TFF) program was started by the Tennessee Farm Bureau federation in 2007 from the Specialty Crop Block Grant Program. The development of the “Buy Local” movement has been strong and has aided the grower in profitability. TFF is bridging the gap between the consumer who wishes to purchase local agricultural products and the growers who are attempting to get their produce to a local customer base. This grant was needed to enhance and complement the work done with the previous SCBGPs, which were used to establish TFF. TFF was able to use this grant to start heavily promoting specialty crops in Tennessee by working to increase and improve TFF offerings to consumers, soliciting new specialty crop growers into TFF, visiting farms to verify specialty crop offerings and production, and conducting outreach to maintain service.

Approach taken for the project:

TFF holds a quarterly workshop in an agriculture area of Tennessee four times a year to help the producers market their specialty crops. These workshops cover many different topics that help the producer reach the consumer who wishes to buy locally. TFF covers many topics during these meetings that are included but not limited to; how to communicate the benefits of GAPs (Good Agricultural Practices) to consumers, the benefits of adding value to specialty crops, how to utilize Point-of-Sale materials to add recognition to your operation, and the importance of using customer service in a retail environment. In addition to the operations all new members are given a publication prepared by the University of Tennessee extension program on direct marketing of specialty crops and an educational book by Sarah Beth Aubrey, “Starting and Running Your Own Small Farm Business.”

In addition to working with the producers to help them transition to a retail business TFF recognizes the need to promote specialty crops. TFF’s marketing plan reaches over 25% of Tennessee’s 6.4 million residents every six months. This is done through a series of print, radio, television, and online advertising as well as live promotional events throughout the state. TFF also placed brochures detailing the availability of Tennessee specialty crops in many areas throughout the state including farmers’ markets, fairs, state parks, local attractions, welcome centers, street festivals, and other events throughout the state.

Tennessee specialty crops were promoted through the following series of advertising:

- A) The purchase of promotional items that reach a targeted audience at events with a heavy presence of local food enthusiasts, ex. A new farmers market grand opening.
- B) Advertising on the WCTE “Live Green” series that reaches over 500,000 Tennesseans.
- C) A series of advertising on WTVF, “News Channel 5” that advertises the availability of specialty crops when they were in season and a series of live promotional events on the daily news/human events series “Talk of the Town.” These live advertisements spoke about the specialty crops that were in season, the many uses of these specialty crops, and most importantly direction to the website where the consumer could locate these specialty crops.
- D) A series of advertisements and a live remote with WATE-TV in Knoxville, TN. These advertisements were geared towards the availability of in-season specialty crops and the website where the grower could be located.
- E) A series of advertisements on WBBJ in Jackson, TN that detailed the availability of specialty crops. These advertisements ran during news and human events programming.

With funding that was not utilized from the Wholesale Specialty Crop Auction, Pick TN Products carried out an in-season specialty crop advertising blitz in the summer of 2012, that went through September of 2012. The locally produced specialty crops that we advertised included blackberries, peaches, apples, pumpkins, and wineries. These were promoted heavily on WCTE and Nashville Public Radio.

In addition to the advertisements, Pick TN Products produced a series of recipe cards that featured locally grown specialty crops, these simple easy to make included corn sauce, pickled beets, sautéed spinach, and tomato salsa. We gave these cards out at all public events that Pick TN Products had a presence. Two of the recipe cards PTP Produced are below.



We tailored our promotional plan to reach the maximum number of consumers with programming that was watched by the demographic we were attempting to reach.

TFF and PTP both saw an increase of over 10% in the number of people who were following them on Facebook. This free resource has been invaluable in reaching the consumer who is searching for fresh, locally grown produce. Not only are we able to instantly connect to our consumer base, we are able to give fresh new ideas for uses of specialty crops in recipes. The consumer who seeks out and purchases fresh produce is usually the consumer who wishes to try new recipes and to also share recipes with the online community that follows these two promotional entities on Facebook.

TFF also started a newsletter during the peak growing season that was made available to consumers who wished to learn more about TFF members and their products in the summer of 2012, over 1,100 consumers signed up to receive the email newsletter.

Achievement of goals:

We have reached over 50% of Tennessee residents about the availability of specialty crops through the efforts of TN Farm Fresh and Pick TN Products. Since TN always has the availability of locally produced

specialty crops we were able to give all growers advertising time. The summer is when the majority of our fruits and vegetables are available, spring is when we are able to assist nursery and floriculture specialists, fall is when pumpkins and fall squash are available, and winter we are able to market Christmas trees and honey.

While we were not able to gain a percentage of the increase of on-farm cash receipts of sales to consumers a survey we sent out to members that allowed them to answer anonymously, we saw an average increase of \$30,000 of on-farm cash receipts to our members. Many growers also stated that customer attendance was up and that the amount each consumer spent also increased, though we could not gage an accurate reading in either percentage or dollars spent.

One of our main goals of TFF has been to get the grower heavily invested in marketing their specialty crops. By reaching out to the consumer and inviting them on location to see how their produce is grown, handled, and packaged many growers have made GAPs the standard operating procedure and are employing many other safety and sanitary practices that is making the local producer an inviting place to come and visit and even more importantly spend money. Since the advertising budget for specialty crops mainly consist of the availability and directing consumers to the websites, many of the benefits and uses of the specialty crops as well as the practices of the grower have to be explained by the grower. TFF is extremely proud of the customer service skills that many of our growers have developed and we are enlisting them to assist other specialty crop growers who are attempting to market their produce in a retail setting.

Results of the program:

When TFF started it had 76 members, there are now 97 members which is a decrease from the end of 2011. We did have a couple of growers retire due to consecutive years of frost. As demand for specialty crops increase, a few growers felt that the profit margin was increasing on wholesale operations and that they were better off suiting their operations more towards wholesale production and left the program. Some members felt like the membership dues should be lower and did not renew based on the costs.

PTP is starting its 26th year and all signs are pointing to increased growth. In addition to farmers' markets where the PTP logo started appearing, it is now prevalent in many other areas of retail including roadside stands, restaurants, grocery stores, many community festivals and events where vendors gather to retail their specialty crops and the value added crops that can assist in elevating the growers' profit margins. Specialty crop growers are also being able to cross promote their products with other specialty crop growers, wineries are marketing with flower growers, Christmas tree growers are starting to sell honey and preserves at their operations, TN apple cider is sold at pick your own pumpkin operations. By connecting the consumer to the availability of TN specialty crops, Pick TN Products has also been able to connect the producers to each other in a way that has allowed them to market their crops in inventive and cost-effective ways!

Progress made to achieve the long term outcome of the program:

TFF and PTP have both made tremendous progress to help market the wonderful and varying specialty crops that the state of Tennessee produces. TFF recently upgraded its website to include Google Maps that will help the consumer find the farm that is sometimes off the beaten path. The "Buy Local" movement that both initiatives have been promoting is now taking off and buyers of agricultural products that do not have a historical record of buying locally, schools, restaurants, and cafes, are now advertising locally grown agricultural products. In fact the New York Times recently did a story on the Nashville food scene, its uses of local agricultural products, and the way it was able to rebound from the

devastating flood in 2010. While all this cannot be directly tied to the USDA SCBG program, PTP and TFF; all are contributing factors.

[East Nashville's Flowering Food Scene](#)

Additional information:

Information about the Tennessee Farm Fresh program can be found at the website:

[Tennessee Farm Fresh Home Page](#)

Information pertaining to Pick TN Products can be found here:

[Pick TN Products Home Page](#)

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Project 2- Measuring irrigation water quality on vegetable farms:

Purpose:

The purpose of this project was to gather scientific data on irrigation water quality in Tennessee, contribute to the nationwide Irrigation Water Quality Database for fresh fruit and vegetable production through the National GAPs Program, which will help shape future irrigation water standards. Moreover, we conducted educational workshops on irrigation water quality management for Extension professionals and producers, so as to improve on-farm risk assessment, provide strategies for implementing a water testing program, aid in interpreting water testing results and provide assistance for understanding when mitigation strategies should be adopted.

This project helped to fill the nationwide irrigation water quality knowledge gap by compiling and analyzing water samples for generic *Escherichia coli* (*E. coli*) densities, pH, specific conductance and turbidity that were incorporated into the Irrigation Water Quality Database created by Betsy Bihn of the National GAPs Program at Cornell University.

Information gleaned through this water quality study was shared with Tennessee Extension professionals and fruit and vegetable producers through one-on-one, on-farm instruction, as well as workshops emphasizing the importance of irrigation water quality management to improve food safety, best management practices for protecting irrigation water sources, and the financial impact, both

positive and negative, of irrigation water management on their businesses. Moreover, strategies for implementing a water testing program, selection of tests for sanitary water quality and interpretation of results, as well as when to consider mitigation strategies were covered.

The broad objectives were to:

- 1) Sample irrigation water throughout the production season to assess the presence and persistence of *E. coli*.
- 2) Train Extension professionals and producers in irrigation water quality assessment and management.

Impact:

This project impacted our fruit and vegetable industry by providing an objective assessment of the quality of water currently used for irrigation, evaluating the ability of currently-used criteria to discern contamination by key pathogens and providing information to Extension professionals and producers to improve on-farm irrigation water management. The forty participating producers received a considerable savings through this grant by not having to incur the cost of testing the water supply. Furthermore, maintaining buyer and consumer confidence in and demand for fruit and vegetable production in Tennessee will potentially enhance farm viability and profits. Over 300 growers and Extension professionals benefitted from this project. The short-term direct economic impact of this project was over \$38,000 but by maintaining buyer and consumer confidence in Tennessee grown specialty crops the long-term economic impact will be substantially more significant.

Measureable outcomes:

- 1) *Water quality samples will be taken from a total of 60 vegetable farms in TN*
Water samples were taken from 40 farms across Tennessee. The number of farms was less than originally planned as most farms had multiple irrigation sources to sample. For the 40 farms sampled during the 3 years, 101 irrigation sources were sampled, including 55 surface water sources, 42 wells and 4 municipal water sources.
- 2) *# of water quality trainings conducted for Extension professionals and producers*
Forty one-on-one trainings on proper water sampling and interpreting results were conducted with participating growers. Additionally, four agent in-service trainings were conducted that covered proper sampling methods and results interpretation. A training session for producers was also held during the 2012 TN Horticultural Expo on water testing, and another training on water mitigation strategies will be conducted at the TN Horticultural Expo in January 2013.
- 3) *# of contacts assisted through workshops & other direct consultations (email, phone, etc.)*
The number of contacts assisted through workshops and other direct consultations was:

Agent in-service training 2011 (Knoxville, Humboldt, Murfreesboro)	82
Agent in-service training 2012 (McMinnville)	16
TN Horticultural Expo (Nashville)	75
Direct consultations	150
TOTAL	323

4) # news articles
None

5) # and titles of presentations and publications developed
3 presentations

Water Testing: What does your water tell you for food safety and beyond?
Vegetable Production Update, these presentations were given at the Agent in-service
Training sessions at Knoxville, Humboldt, and McMinnville

2 publications

UT Extension SP 740-A Good Agricultural Practices Series: Testing Water for Fruit
and Vegetable Production

[UT Extension SP 740-A](#)

UT Extension SP 740-B Good Agricultural Practices Series: Interpreting Water
Quality Test Results for Fruit and Vegetable Production

At the time of this report SP 740-B is not available online, it will be published online in
the future at this address:

[University of Tennessee Extension Publications](#)

A third publication on water mitigation strategies is currently in progress.

Performance monitoring plan:

*Objective 1: Sample irrigation water throughout the production season to assess the presence and
persistence of E. coli*

In 2010, irrigation water was sampled on twelve farms across East and West Tennessee, with a total of
28 irrigation water sources, including twelve surface water sources, fourteen wells and two municipal
water sources. Eight of these farms grew tomatoes exclusively. Three other farms grew a mixture of
vegetables and one farm grew strawberries. Samples were taken three times throughout the production
season.

In 2011, water was sampled on thirteen farms across Tennessee, with a total of 30 irrigation water sources, including eleven surface water sources and nineteen wells. Four of these farms grew tomatoes exclusively. Seven other farms grew a mixture of vegetables, one grew only pumpkins and one farm grew a mix of berries. Samples were taken three times before the crops were removed for the season. In 2012, irrigation samples were taken from fourteen farms across Tennessee, with a total of forty-three water sources, including 32 surface water sources, nine wells and 2 municipal sources. Six farms grew a mixture of vegetables, four grew strawberries exclusively, one each grew apples, asparagus, tomatoes and berries exclusively. Samples were taken three times on all farms and four times on two farms to ensure the integrity of the sampling procedure.

Analyses included quantified generic *E. coli*, specific conductance, turbidity and pH. In 2010, of all 84 samples taken, only one sample was above the allowable limits for cfu/ 100 ml of *E. coli*, and this sample was taken from a surface water source shortly after a heavy rain event. In 2011, of all 90 samples taken, four samples were above the allowable limits for cfu/100 ml of *E. coli*, and these samples were taken from surface water sources. In 2012, of the 129 samples taken 25 samples were above the allowable limits for cfu/100 ml of *E. coli*, and these samples were taken from surface water sources. The weather in 2012 was conducive to increased proliferation of generic *E. coli*, due to both drought conditions and elevated early spring temperatures. While generic *E. coli* is an indicator organism and not an actual count of pathogenic organisms that cause foodborne illnesses, if the levels of generic *E. coli* are high in water then the chance of having a pathogen like *E. coli* O157:H7 increases and could pose a contamination risk when used to irrigate produce. Results from 2012 give cause for concern and warrant further investigation on the relationship between weather conditions and foodborne illness outbreaks.

Conductivity measurements represent the ability of water to conduct an electric current and are an indicator of the salinity, or mineral content, of water. Conductivity ranged from 11.4 to 1,600 micromhos/cm and no samples were above the maximum desired for irrigation (3,001-5,000 micromhos/cm are considered poor for irrigation).

Turbidity is the measurement of the amount of particulate matter suspended in water, making it cloudy or opaque. Turbidity of the water samples ranged from none detected to 170 NTU's. Currently there are no uniform guidelines for acceptable turbidity values for irrigation water.

The pH of samples ranged from 3.9 (well) to 10.8 (pond), though the average was near neutral (6.8). These results alerted growers to potential problems with their water sources that could have implications beyond food safety and would affect production and yield.

The results from all samples were added to the National Irrigation Water Quality Database to be used to help shape future irrigation water quality standards.

Objective 2: Train Extension professionals and producers in irrigation water quality assessment and management

In years 1-3 of the project, growers whose farms were being sampled had one-on-one instruction with Wszelaki and her assistants on proper water sampling and interpreting the test results. In year 2 and 3 of the project, Extension agents were trained at agent in-service trainings in a train-the-trainer format on proper sampling technique and result interpretation. In year 3, a workshop on water quality and

what it tells you was conducted at the TN Horticultural Expo, a statewide meeting for fruit and vegetable producers.

Deviations from the plan of work:

As mentioned above, the proposed plan was to sample 30 farms in each year; however, most farms had more than one irrigation water source. Therefore, the number of farms was scaled back to accommodate the multiple irrigation water sources.

Information on the sub-recipient:

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Project 3-Development of New Methods Against Imported Fire Ants:**Need for a grant:**

Imported fire ants (IFA's) infest over 325 million acres in North America and their habitat is continuing to expand. A major issue for the nursery industry is the Federal Imported Fire Ant Quarantine, which requires insecticide treatment of all nursery stock moved from quarantine to non-quarantined regions. Currently, there are only three IFA quarantine treatments approved for field-grown nurseries:

- 1) A pre-harvest broadcast bait (e.g. Amdro, Award, Distance, or Extinguish) followed 3-5 days later with granular chlorpyrifos.
- 2) A post-harvest root ball dip in chlorpyrifos.
- 3) A post-harvest and twice daily drench of the quarantined plants in chlorpyrifos that must be done for three consecutive days.

The broadcast pre-harvest method is the most reasonable, but remains cost prohibitive. At the time of this report the cost to treat this method was approximately \$266 per acre and three years later the cost can be up to \$400 an acre depending on which broadcast bait you use. The post-harvest dip or drench methods are labor intensive, impractical for treating large numbers of nursery plants, potentially damaging to the environment, and hazardous to labor because of the large numbers of insecticides used. A major issue is all three IFA quarantine methods for field-grown nursery plants use one active ingredient, chlorpyrifos. This grant was requested to obtain two goals, the primary objective of the grant is to find new methods for treating single trees to certify field-grown nursery plants against IFA. A secondary goal is to introduce new IFA biological control agents into Tennessee. Achievement of these goals will greatly increase the markets and marketability of nursery specialty crops.

Approach Taken:

To find new insecticide treatments and methods that can be used to treat individual field-grown nursery trees for imported fire ants, two approaches were taken. The first approach involved targeted injections

of imported fire ant colonies with low volumes of bifenthrin using a commercial or experimental USDA injection probes. The injected mound treatments were compared to colonies that received traditional simulated band sprays. A second approach involved chemigation of individual nursery trees using buckets modified with small drain holes. The bucket technique is widely used by small and large-sized nursery operations to irrigate plants in preparation for harvest. By adding a chemical treatment to the irrigation water, we were able to evaluate treatment efficacy against imported fire ants, while using a common producer practice. Treated plants were harvested with a mechanical digging spade, wrapped in burlap and wire baskets, and the burlap of the post-harvested plants treated with a 1-gallon drench of bifenthrin at 0.05 lb active ingredient per 100 gallon rate. Soil and burlap samples were collected from balled and burlapped plants at 1, 2, 3, 4, and 6 months post-treatment and were sent to the USDA-APHIS Soil Inhabiting Pests Section, Gulfport, MS (SIPS). At SIPS, soil and burlap were placed in separate bioassays with red imported fire ant female reproductives (alates), and evaluated for toxicity every 2-3 days for 2 weeks.

To establish imported fire ant biological control agents in Tennessee for region-wide sustainable reductions in imported fire ant populations, a new species of phorid-decapitating fly (*Pseudacteon obtusus*) was released for the first time in Tennessee. Releases of *P. obtusus* were made in Moore, Sequatchie, Franklin, and Sequatchie counties in fall 2009, fall 2010, fall 2011, summer 2012, respectively. To release flies, imported fire ant workers were collected from 16 colonies during each release year and sent to USDA-APHIS phorid-rearing facility at the Division of Plant Industry - FDACS in Gainesville, FL. Fire ant workers were exposed to phorid flies in the USDA laboratory for one week, then mailed back for re-release at the original collection location. Release sites were periodically checked during the project period for establishment of *P. obtusus* using aspirators to collect adult flies near disturbed fire ant colonies and also insect sticky traps placed near ant foraging baits.

Achievement of Goals:

The project goal to develop new methods to eliminate imported fire ant colonies from individual nursery plants was achieved during the project. The methods to apply treatments were modified slightly from the proposed drench wand to using injection probes to treat colonies, as well as buckets to chemigate soil around individual nursery trees rather than drench wands. The injection probes proved to be more effective for treating individual fire ant colonies and there were fewer concerns from the chemical manufacturer regarding application rates applied below ground than on the surface. A treatment to control large-sized fire ant mounds was also needed to augment our band spray treatments under development, and injection of mounds proved to be the most effective technique for direct treatment of individual mounds. The bucket chemigation method was employed because nursery producers are using the technique, so it integrates into their existing practices. In addition, the bucket method allowed the treatment to be applied while the applicator did other activities, unlike a drench wand which requires staying at the site during application, so the technique improved efficiency. Lastly, the bucket treatment provide a slow drench of the nursery plant, which allowed treatments to penetrate deeply into the soil around the plant, which proved to be highly effective at controlling fire ants in post-treatment soil bioassays. Bifenthrin was used in all of the chemical assessments because we already had data showing this insecticide is extremely efficacious against imported fire ants. All rates of bifenthrin evaluated provided complete fire ant control for 4 to 6 months post-treatment. The project goal to establish new phorid-decapitating flies in Tennessee is presently undetermined. We did successfully release parasitized ants at four sites over a 4-year period, but at this time we have not recovered adult *P. obtusus* at the release sites. Due to small size of the parasitoid founding populations, USDA colleagues have indicated it may take 3 to 5 years before fly populations are large enough to successfully recover flies and confirm establishment. We did document large numbers of *Pseudacteon curvatus* flies

at all of the release sites (a species previously released in Tennessee by our program and colleagues at the University of Tennessee). We plan to continue to monitor for establishment of *P. obtusus* after the project period.

Results of the Program:

Treatment methods and the insecticide we evaluated (bifenthrin) provided highly effective control of imported fire ant colonies. Mound injections rapidly eliminated large colonies within 1 to 2 weeks post-treatment at very low bifenthrin rates. In contrast, the simulated band sprays did not effectively eliminate all colonies. We have been developing bifenthrin band spray treatments to eliminate imported fire ants from in-field nursery stock rows, but have not been able to effectively control large fire ant colonies (defined as mounds with diameters greater than 8 inches or heights taller than 4 inches) with band spray alone. The data we gathered during this project showing high fire ant control efficacy with mound injections will be used to validate an individual mound treatment protocol for controlling large mounds as part of an overall nursery band spray program under development. Our cost estimates indicate band sprays and mound injections with bifenthrin will cost about \$0.07 per tree for labor and chemical. In contrast, the current approved Federal Imported Fire Ant Quarantine treatments of a chlorpyrifos root ball dip, a twice daily for three consecutive days chlorpyrifos drench, or a broadcast chlorpyrifos granular treatment have been estimated to cost \$0.73, \$0.51, and \$0.25 per tree, respectively. In addition, bifenthrin treatments provided near 6 months of residual control, whereas currently approved chlorpyrifos treatments only provide 1 to 2.8 months certification. If the band and mound injection protocol can be approved, nursery producers will benefit from a lower cost treatment and longer certification period for their nursery stock. The bucket chemigation treatment developed during this project was highly effective at controlling fire ant alates in soil and burlap bioassays at rates of 0.025 and 0.05 lb active ingredient per 100 gallons. The post-treated burlap remained toxic for 6 months in 2010 and 2011 tests. The soil remained toxic out to 4 to 6 months in 2010 and 2011 tests. During fall 2012, we repeated the bucket chemigation for a third year at the previous rates, plus a new lower rate of 0.0125 lb active ingredient per 100 gallons. The soil and burlap from the 2012 treatments are still being evaluated in bioassays at this time and will continue outside of the project period, but post-treatment months processed to date are indicating high efficacy again. The bucket chemigation technique offers multiple benefits to nursery producers, including 1) a method already used to water trees for harvest (i.e., fits existing production practices), 2) it allows producers to treat individual trees that have been sold rather than whole nursery blocks, which was an objective of this proposal, 3) it has less worker exposure hazard than dipping and drenching, 4) it treats the soil more effectively than rapidly drenching insecticide solutions onto trees, 5) it allows producers to fill buckets with chemical and then go do other activities while the treatments drain, and 6) efficacy on fire ants was extremely high and soil remained toxic for 4 to 6 months at rates evaluated. Another very important result of this project was the determination that a 1 gallon drench of a 24 inch (60 cm) diameter balled and burlapped root ball at 0.05 lb active ingredient per 100 gallons resulted in burlap that was toxic to imported fire ants for 6 months. The limitation to bucket chemigation method developed during this project was the estimated cost of the rates we evaluated, which was \$2.14 to \$3.29 per tree. These chemical costs are not likely to be practical to producers. We have already initiated testing of lower total solution volumes for bucket chemigation for fall 2012 at bifenthrin rates of 0.0125 and 0.025 lb active ingredient per 100 gallons in an effort to lower costs to an estimated \$0.35 to \$0.86 per tree (i.e., comparable or lower than existing Federal Quarantine treatments). The fall 2012 testing that we have initiated will continue outside of the project period and build upon what we learned during this project to provide a new treatment that has multiple benefits over existing Federal Quarantine treatments.

The phorid-decapitating fly portion of this project resulted in the successful release of parasitized ants collected from 64 imported fire ant colonies in 3 Tennessee counties (Moore, Franklin, and Sequatchie) and 4 total sites. The ants were parasitized with *Pseudacteon obtusus*, a phorid species not previously released in Tennessee. Unfortunately, we have not recovered this fly species to date at any of the release sites, but we also know from USDA colleagues that it is not uncommon for it to take several years for newly established phorid populations to reach densities where detection is possible in the field. We plan to continue monitoring for establishment of this new species outside of the project period. We did document large numbers of *Pseudacteon curvatus* flies, a species previously released by our program and other scientists at the University of Tennessee, at all of our release sites during the study.

Progress Made to Achieve the Long Term Outcome of the Project:

As stated in previous sections, we plan to use data collected during this project to support a new mound injection protocol as part of a larger band spray program being developed for treating in-field nursery stock. We have two years of data supporting a band spray protocol capable of eliminating fire ants from field-grown nursery stock for up to 6 months. However, the protocol needs an effective technique to target and eliminate large-sized colonies, which cannot be completely controlled with band sprays alone. The injection data collected during this project will be invaluable in supporting our large mound treatment protocols for the new band spray program. We hope to perform a third year of band spray testing in fall 2012, if sites can be located with suitable mound densities. Therefore, the data from this project will continue to support our long term goal of a pre-harvest treatment that combines band spraying and individual mound injections. The approval of this protocol in the Federal Imported Fire Ant Quarantine will provide nursery producers with a substantial cost savings over existing protocols (estimated savings between \$0.18 and \$0.66 per treated tree). The bucket chemigation protocol developed during this project provided a highly effective method to treat individual nursery trees and prevent fire ant infestation of soil for up to 4 to 6 months. The main issue with the bucket chemigation technique is the high cost due to the large volumes of chemical solution applied during treatment. We have now begun to look at lower total solution volumes, which will reduce the cost of the bucket chemigation method to levels equal to or below current Federal Quarantine treatments. The new work will continue outside of the project period, but data gathered during this project are now supporting long term research directions that will produce new and better options for nursery producers. We will continue to monitor for establishment of the phorid-decapitating fly (*Pseudacteon obtusus*) outside of the project period. We want to document the establishment of this fly species in Tennessee, but it may take several more years before populations reach densities suitable for field detection. It is hoped the long term outcome of these efforts will be an additional biological control agent targeting imported fire ant populations in the state, which will result in long-term, no cost and sustainable fire ant population reductions. Because *P. obtusus* attacks larger-sized fire ant workers than the currently established *P. curvatus*, its establishment will provide control of fire ant workers not presently being targeted by existing biological control agents and may improve overall regional management. Long term, we are also hopeful that *P. obtusus* populations will expand to new areas in the state where releases were not initially made, as is the case with *P. curvatus*, which is now statewide.

Additional Information:

No additional information other than bucket chemigation and phorid-decapitating fly monitoring are going to continue outside of the project period, to yield continued benefits to our nursery producer stakeholders.

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Project 4-Marketing Tennessee Grown Nursery Plants**Need for a grant:**

The Tennessee nursery growers have been through a series of events that caused devastating losses. A period of extreme drought hit Tennessee in 2007 and 2008. There was a late freeze in 2007 and the recession of 2007-09 along with a slow economic recovery has slowed new construction. This has caused the nursery industry to go through one of its worst financial performance periods in many years. The TNLA requested a grant to help their growers promote their specialty crops at the Mid-State Horticulture Expo held in January 2010. Funding was also requested to assist in the cost of a nursery buyer's guide that was printed in January 2011 and to advertise the new Tennessee Green Industry Expo that will be held in Nashville in January 2013. TNLA decided to hold a show in Nashville which is better suited to an industry wide trade show than Louisville, KY.

Approach taken for the project:

TNLA set about talking with nursery owners about the needs of the industry in the face of a series of natural and man-made events that caused the industry losses that had not been experienced in over 20 years. The recession caused the market for nursery products to dry up almost immediately and the remaining buyers were only offering prices that gave the growers razor thin profit margins. TNLA and its growers got together to form a marketing strategy that would help it survive during these rough times. It was decided that:

- a) We need to focus our sales efforts on existing home owners and work with retailers to show how we could help existing property owners to use nursery products to assist in stabilizing falling property values.
- b) Nursery products could have a stabilizing effect in areas that were experiencing an accelerated rate of erosion.
- c) Nursery products could be used to enhance security in areas that had a large public gathering. The nursery products would blend in with technology and personnel in a way that people who have assembled would not find either threatening or intimidating.

The revenue that would be potentially be received from these sources was not enough to replace the revenue that was lost or would it be able to allow the grower to recoup lost expenses from natural events, but it was an opportunity to stabilize the industry and to allow growers to form a new business model that would be beneficial after economic conditions improve.

Achievement of goals:

With natural events and economic hardships several nurseries in middle Tennessee closed up. By giving producers an incentive to participate in the MSHE, growers were able to meet buyers one-on-one with buyers to determine what nursery products were in demand and find out where the void was by other growers going out of business. From the survey that was filled out and included in the 2011 annual report, growers anticipated a 10% increase in orders written at the show and communication between the TNLA and the growers who attended seems to substantiate the initial optimism on the last report. Growers' response to the buyers at the MSHE and the utility gained from establishing long term relationships with the buyers of specialty crops was one of the determining factors in TNLA's breakaway from the MSHE and starting a show in Nashville. Even though the market is down for specialty crops, TNLA has utilized the funding available to help Tennessee specialty crops growers find an opportunity for new revenue sources.

With the remaining funding that was not utilized TNLA set about advertising the new TNGIE show being held in January. Direct mailings and advertising in industry trade publications helped get the word out to over 25,000 growers and buyers of specialty crops. TNGIE has received deposits on over 50% of the booths available. Commitments to the TNLA have also been coming from Alabama, North Carolina, and Mississippi from growers who never participated in MSHE.

The surveys that TNLA received from the buyers' guide were extremely positive. A majority of the buyers of the listings felt that their participation in the guide would help increase their sales by 10% or more. A copy of the survey and success stories that participants included are listed below:

Need quality plants?

Visit the **Tennessee Nursery
Buyers' Guide** online
www.tnla.buyerguide.php



Or Attend **The Tennessee Green
Industry Expo** Where you can
meet the growers and see their plants!
Nashville Convention Center
January 3-4, 2013
www.tngie.com



Tennessee Green
Industry Expo

Contact the Tennessee Nursery & Landscape
Association for additional information 931-473-3951



THE TENNESSEE NURSERY &
LANDSCAPE ASSOCIATION, INC.

**Questionnaire For The TNLA Buyers' Guide
USDA Specialty Crop Marketing Grant for Tennessee Growers**

Please complete and return today! I must submit a report to the Tennessee Department of Agriculture tomorrow regarding the benefits of the Buyers' Guide.

1. Is this your first year to list your plants in the Buyers' Guide?
____2____ Yes ____15____ No
2. Would you have listed if funding had not been available to help you with expenses?
____10____ Yes ____7____ No
3. Did you received any inquiries from either the printed or online guide?
____16____ Yes ____No ____1____ Don't Know
4. Do you think your listings in the guide will help in future sales of your products?
____16____ Yes ____No ____1____ Don't Know
5. If yes, how much do you think your sales will increase?
____4____ 5% ____8____ 10% ____4____ 15% ____1____ 20% **(Average 11%)**
6. If you have listed your plants in previous TNLA Buyers' Guides, do you think your business has benefited from this guide? ____11____ Yes ____No ____3____ Don't Know

If yes, will you share a story so I can include it in my report? It always helps to show how grants are used to benefit the industry. Without your stories, I have nothing to write about. I would very much appreciate your help! (New Customers(s), Increase In Sales, etc.)

Fax to: 931-473-5883 Today

Stories shared from Buyers' Guide Questionnaire

- From time to time we get a call for plants from a potential new customer. In our conversation they tell us they got our name from the buyers' guide.
- Got New Customers from Kentucky& North Carolina
- We have been getting several calls from buyers that would not have called us otherwise. Activity has been much improved by our advertising.
- The Buyers' Guide is a way to list items that you may not list in your catalog due to printing cost. We have been able to sell a lot of the fall inventory specialty plants that we otherwise would not have been able to list to the trade. Three years ago we sold 2 tractor trailer loads of *Carpinus Betulas* to a firm in Virginia because of listing in the Buyers' Guide.
- This is the first year I have personally been in the Buyers' Guide. I have gotten about 15 calls from new leads. I do believe it will be a big benefit when potential customers start looking for container liners this fall. Although my increase in sales have been around 5%, I do believe I potentially will be able to increase sales more than that in the future due to getting market exposure for our company's name and also from gathering names/addresses of potential clients who have called. Last week, I made a sale of \$2,400 (in state sale) to a person I met at trade shows several times but had never bought from our nursery. (Prior, he had been buying this same product out-of-state.) When he found our name by an item in the guide, he bought from us for the first time. Yesterday, I had a \$4,900.00 order that was purchased from an out-of-state customer who found me in the guide. Both new customers were pleased with the plants and said they would see me in the fall.
- Several potential customers have called looking for a specific item and ended up buying several pieces of various plants.
- We receive calls throughout the year from people who have found our material in the Buyers' Guide...both online and printed. We also point people to the website when they call asking us for something we don't grow. It may seem strange to point your customers toward another vendor, but we have found that most people sincerely appreciate the help and will remember it and shop with us again in the future. The Buyers' Guide is just one more way we can be of service to our customers.
- I have had several inquiries that found our nursery through the Buyers' Guide. They have been local and out-of-state. I cannot offer actual numbers. I have referred people to check the listings on the guide when it wasn't a plant that I had.

- The Buyers' Guide is one of the few advertising venues we utilize that has actually brought in new business for us. We have a habit of asking people where they heard about us (other than our website) the Buyers' Guide is the most answered response.
- In reference to the second question: Yes, we would have listed without funding because we are aware of the number of potential buyers this guide is distributed to. I must add with the helpful funding we were able to list more items than we would have without the funding.
- To me the guide is an excellent source to help grow sales out of state. The online version I feel can be improved annually with funding and will surpass the printed version. It will allow nurseries without websites to be found and directly link to those that do. Without funding these hopes and goals may not be met. The older smaller nurseries will have a much harder time competing long term with the larger nurseries with marketing advantages.

Results of the program:

TNLA worked extremely hard to help the producers of nursery crops find ways to succeed after the recession and slow recovery. In doing so, we have started our own trade show and are attracting growers and buyers who have never attended the MSHE in Louisville. We are continuously connecting growers to buyers and are finding new avenues to make the grower more responsive and receptive to market conditions. While the sales of our growers are not back up to pre-recession levels we are seeing our members strengthen their business models in order to survive today's economic climate. Many of our members are now shipping internationally with Europe and South America being major buyers of TN specialty crops.

There were 64 TN grower members that participated in the 2010 MSHE, those growers anticipated a 7% sales increase because of their participation. There were also 49 members who participated in the buyers' guide cost share and those members felt that the advertising would increase sales 11%.

Wholesale buyers also benefitted from the buyers' guide. By having the guide online many users of specialty crops could check to see what grower had the products in inventory. Since the grower has a link on the site, a buyer could email questions at any time. They could also request prices from all growers insuring the best price and the savings would be passed along to the retail buyer.

Progress made to achieve the long-term outcome of the program:

TNLA has worked with its members to achieve success in today's challenges. Education classes we are holding at our workshops not only include the basics, pest control, optimal soil ph, etc. we are now getting speakers to teach our members about using social media to enhance their sales, how to get

started in international shipping, and other topics that many other types of industry is facing today. By getting our growers to embrace technology and marketing and to include them in their business plans we feel that they will be that much more prepared for future downturns and natural calamities.

Additional information:

[TNLA home page](#)

[Tennessee Green Industry Expo | Official site of the TNGIE](#)

[TNLA - Buyer's Guide](#)

Contact information for the sub-recipient:

Tennessee Nursery and Landscape Association
Louree Walker
PO Box 57
McMinnville, TN 37111
931-473-3951

Project 5-Marketing of Tennessee Nurseries in the U.S.

Need for a grant:

The Middle Tennessee Nursery Association is a non-profit organization whose purpose is to promote the nursery industry in Middle Tennessee, an industry that has an economic impact of over \$150 million dollars in Warren County alone. MTNA has a charter that requires all 255 members to be active in the nursery industry with the principal place of business being in middle Tennessee. The recession of 2008-09 has ended but the recovery has been slow and construction has lagged way behind other sectors of the economy. When construction was booming, promotion of the nursery industry was relatively easy but with new construction still down we utilized the funds to help promote TN nursery products to all areas of the country. We also utilized funding to attempt to stop a declining attendance in the MTNA annual trade show started when the recession started. The trade show has proven in the past to be a great marketing opportunity connecting specialty crop growers and buyers. This grant project enabled MTNA to implement new aspects to increase the effectiveness of the current trade shows.

Approach taken for the project:

MTNA realized that while housing construction is down, there is still a demand for nursery products in upgrading existing homes, a consumer's desire to grow some of their own fruits, utilizing nursery products to enhance security for businesses, and the use of nursery products to stabilize environmental situations, ex. the planting of trees after a forest fire. MTNA developed and actively promoted a show

schedule that would be the most beneficial to our growers and also give us the best opportunity to find people who will set up a booth or attend our annual trade show.

MTNA attended three shows in 2012, in addition to the 8 we previously attended. These were the MANTS (Mid-Atlantic Nursery Trade Show) show in Baltimore, the GSHE (Gulf States Horticulture Expo) in Mobile, and the MSHE (Mid-states Horticulture Expo) in Louisville. The number of buyers of specialty crops totaled over 7000 for the three shows. We included buyers' guides, contact cards, samples, brochures, and other literature at our booth. Mark Halcomb, a UT extension agent with over 25 years in the nursery industry was on hand to answer any inquiries made and the MTNA representative, Ann Halcomb was on hand to connect the potential buyer to the grower. We have given MTNA members over 7,500 new sales leads based on our participation at these shows.

MTNA also did a complete overhaul of its annual trade show. They moved the trade show from McMinnville, TN, the heart of the TN nursery industry to a more urban setting in Murfreesboro, TN. This gave the attendees more opportunities in the way of dining options, lodging, and other entertainment while they were not attending the show. The show was also moved to August from October. MTNA worked with local and state media to do public service type information in the home and garden sections of the paper. Most of the advertising we initially saw was geared towards the homeowner and not the professionals for our show. MTNA did send press releases to all of the state and local papers and many large papers outside of the middle Tennessee area. Funding was utilized to help market the show and accentuate the benefits of the show's changes.

MTNA also designed a gridded buyer's map to highlight each member and also the wide variety of TN specialty crops and their corresponding support products, i.e. liners and containers. The last map was done several years ago. MTNA worked with a printer and we decided to keep the map at four colors as was our previous map. For ease of locating nurseries we utilized a one inch grid. This made addressing the location of the nursery more specific. This map is too large to include a PDF in this report but it can be obtained by contacting MTNA.

Achievement of goals:

The SCBG project helped MTNA and its members achieve our goal of marketing nursery products effectively in a recession/slow recovery environment. We utilized the funding to find new markets and our members are seeing benefits from that. By allowing two MTNA agents to attend shows and market all different types of nursery products and support products, we were able to connect a new type of buyer with our members. Whole Foods is now purchasing fruit trees from our members for their retail outlets. During the grant period, new markets opened up for our members in Canada, Germany, and the Netherlands. The boom period in construction led to some areas being over built and erosion is now a concern, MTNA members were able to provide nursery products to those areas that are now helping to minimize the effect. While this has not replaced new construction, it has taught the growers to diversify their products offered and has given them new avenues to update their business model.

The funding did not prevent the MTNA trade show in declining attendance, but all nursery trade shows have seen declining attendance in the past five years. Since 2008, the show's attendance has steadily declined and even though we gave the annual tradeshow a complete overhaul our attendance still declined from 2011 and we did not achieve our desired attendance level.

One marketing effort did pay off in our show's attendance and that was in the area of education. Attendance in 2012 increased over 100% from 2011, with a few attendees traveling over 8 hours to take part in the education. In 2011, we had 40 paid attendees and 81 paid attendees in 2012. By attending the MTNA's education session a specialty crop grower in the nursery industry received the 6 pesticide points necessary to fulfill the Commercial Applicator Requirements that are necessary every year.

MTNA also distributed over 2,000 of its maps to potential buyers and other users of specialty crops. We have distributed these maps through contacts at trade shows, mailings, and drop-in traffic to the MTNA office.

Results of the program:

Our attendance of industry trade shows nationwide has had a positive effect on the nursery industry in many ways:

- a) By attending a wide variety of shows nationwide we are able to connect specialty crop growers to buyers of these products in all of the continental U.S., the EU, and Canada. Tennessee specialty crops have a large presence in the Netherlands and Germany and sales are increasing annually in Italy and France.
- b) Attending the shows has helped our growers become more responsive to the industry's needs. By attending these shows and giving our members many sales leads this has opened up communication in the association and allowed MTNA to tailor its products to the market demands.
- c) By using the funding to open up our attendance at shows, MTNA board of directors and lone executive have been able to draft a show schedule that allows it to maximize its presence to the most number of buyers. Attendance at new shows was extremely risky because attendance at one show meant we would not be able to attend another and we were constantly chasing the market instead of being responsive to market conditions. By attending other shows, MTNA is now able to maximize its travel budget every year to determine the schedule that best suits its members and if market conditions change we are now able to respond because we are aware of what each show offers and the buyers we will contact at each show.

While the MTNA annual trade show suffered declining attendance over the period of the grant we did see an area where we can be beneficial to the industry and find our place in a crowded trade show arena. That is in the area of education and nursery tours, which we will be emphasizing as we market our 2013 show. We felt the changes we made in 2012 allowed us to move forward and that in 2013 while we do not have the initial attraction that Baltimore or Mobile has, a local trade show that stresses

the technical expertise our growers possess along with our knowledge of worldwide regulations that have allowed TN specialty crops to be shipped to six continents and all of the 48 continental states has a place in a crowded industry. We will highlight the benefits of a locale change and what a show in the shadow of the “cradle of the plant kingdom” has to offer.

Progress made to achieve the long-term outcome of the program:

The MTNA is in the process of optimizing its show schedule that provides the most benefit to all of its producers. This not only provides members with the confidence that MTNA will utilize funds in the best possible manner but that all members will have the opportunity to increase revenue because of MTNA’s participation.

We are also focusing our 2013 trade show efforts on what we excelled at in 2012, education for the producers and fostering a relationship between the grower and buyer by holding the show in proximity to McMinnville, TN.

Additional Information:

[MTNA's home page](#)

Contact information for the sub-recipient:

Ann Halcomb
Executive Secretary, Middle Tennessee Nursery Association
201 Locust Street, Suite 14
McMinnville, TN 37110
931-507-7322

Project 6-Produce Traceback for Tennessee Farmers

Need for a grant:

In 2008 a salmonella outbreak occurred that totaled over 1300 cases. The outbreak was determined to have been caused by the consumption of raw produce from Mexico, specifically jalapeno and Serrano peppers. The CDC and the FDA issued a warning about tomatoes when the outbreak first hit, in the spring of 2008, during the season of fresh tomatoes. This initial warning hit the tomato growers hard, and the product became scarce due to retailers pulling the product because of consumer uncertainty. Grow Farms used this as an opportunity to implement a traceback system that utilized current technology print a label that was unique to that particular box of produce where the specialty crops could be traced back to the farm where it was grown, the day it was packed, and how the produce moved through the supply chain.

Approach taken for the project:

Even before the outbreak, many buyers of wholesale produce were requiring their growers to complete a food safety program. Grow Farms took the initiative and made sure that all of the growers that sold to Grow Farms were GAP compliant, that not only had the grower completed a GAP course but were implementing the practices learned in the course.

After all of the growers were certified to be GAP compliant, Grow Farms implemented a system developed by Harvest Mark, one of the leading companies in the country in trace-ability. Grow Farms purchased the system and worked with Harvest Mark for several weeks and during the production season of 2010 we started the traceback system for 5 of our growers that consisted of a label for every individual box of produce that was packaged.

Grow Farms took the approach that it would be best to make sure to service our existing growers and not bring any new growers on board until this system was working efficiently and that our producers were able to maximize the benefits of both GAP compliance and the technology that the Harvest Mark system brought to our growers. We now have six growers who are utilizing this system.

The system that was implemented is now a part of all of our sales presentations that we make to existing and potential customers. Seeing how traceback has become the industry standard in the time that the grant was first written, Grow Farms has seen its growers have access to new buyers in the time we have implemented the system.

Achievement of goals:

Through September of 2012, Grow Farms has provided wholesale buyers of Tennessee specialty crops with over 500,000 cases of local produce with the traceback capability. This has provided the grower over \$1,200,000 of additional revenue.

The traceback label has also given the buyer an added level of security. During the salmonella outbreak, Florida alone was estimated to lose approximately \$40 million in tomato sales. By providing traceback to the buyers, the risk to public health was greatly reduced. The financial cost of food safety insecurity is not only measured by public health, obviously the most important, but also in lost wages, lost revenue, and inevitable lawsuits that arise from these situations.

Results of the program:

This program has been an outstanding success, for all parties involved. Grow Farms added additional growers and producers devoted more growing space to specialty crops that totaled over 200 acres of production by the time the grant ended in September of 2012. The added acreage devoted to specialty crop production totaled over 75,000 cases of specialty crops.

All of the growers that participated in the project are excited about the increased competition for the purchase of their specialty crops. Grow Farms recently participated in a mock recall with a nationally recognized restaurant chain as part of a food safety audit. Grow Farms and the participating grower was able to locate yellow squash in New Orleans, Los Angeles, and Cincinnati within 4 hours of the request.

Due to our growers utilizing the traceback system to its fullest potential, all six of our growers have been given the opportunities to increase volume and bring new products to its buyers.

Progress made to achieve the long range outcome of the program:

For all of the immediate success that the traceback program has, the long range outcome is where the strength of the program lies. While the long-range success is not able to be accurately measured at this time, its success is undeniable.

- a) Producers are more likely to utilize technology outside of produce production in order to increase revenue. In the past, growers were likely to adopt technology only in production and it has been historically adopted only to contain costs. This project allowed the producer to utilize technology in the packaging of products that allowed increase revenue that was measurable and instantaneous to the grower. As traceback becomes the industry standard there is a good chance that the grower will lose the premium attached, but the grower will become more responsive to technology and how it can be used to benefit the profit margin of specialty crop production.
- b) The supply chain is becoming more transparent to the consumer. While food prices increase many consumers are unable to pay the premium that a “local” specialty crop commands. This is in no way a reflection of the consumers’ desire to provide a nutritious meal to their family or themselves. This project has allowed Grow Farms to connect the consumer to the grower, it is utilizing technology which is less personable than the local movement, but the level of assurance is tangible and very important to the consumer.
- c) The traceback project that Grow Farms implemented required the producer to be GAP compliant. Being GAP compliant has benefitted the grower in other ways besides the increased revenue from the label. While wholesale buyers are seeking out the growers who are utilizing these practices, it is also helping to foster a long-term relationship because the buyer is actively seeking a producer who is utilizing technology in the supply chain. It is also beneficial because the grower is able to provide packaging outside of the standard case that has historically been the standard in the industry. The grower is able to package smaller portions of the produce, ex. a 3 pack of cucumbers, where historically a buyer has done the packaging, and the grower is able to command a premium for his products in this manner.

Additional information:

Additional information about Grow Farms and the services it provides to specialty crop growers can be found here:

[Grow Farms website](#)

Additional information concerning Harvest Mark and the services it provides can be found here:

[Harvest Mark website](#)

Information on the sub-recipient:

Grow Farms
Stanley Trout
4701 Jennings Lane
Louisville, KY 42018
(502) 969-5445

Project 7- Wholesale Specialty Crop Auction**Need for a grant:**

The need of this SCBG project to establish a wholesale auction is to provide a consistent, dependable and additional market for specialty crop farmers to sell their products. The weekly open produce auction was to allow both large and small specialty crop farmers to present their products to a variety of different buyers where they could incur a true market value for their specialty crops. More and more young people are operating small specialty crop farms. In addition, more immigrants and socially disadvantaged farmers can use the outlet to sell their products. Many of them sell at different farmers markets but need another outlet for their specialty crops. This auction will provide that outlet. A grower will be able sell their product very quickly and receive their funds in 7 days or less. This project intended to address the need of specialty crop growers to minimize risk. A producer could sell some of the specialty crops in a retail environment as well as auction off a good amount of product swiftly. The auction would start at one day a week and the timeline was for us to be at three days a week by the time the grant ended.

Approach taken for the project:

The grant workplan proposed in the approved state plan for SCBG-FB 12-25-B-0950 was utilized and followed as much as obstacles and delays allowed. When the Nashville Farmers' Market was approved for the SCBG project, they immediately started working with a PR firm to design an advertising plan that would be appealing to both sellers and buyers. The logo below was created and used for the auction:



www.farmfreshauction.com

This logo would be attached to all of our email blasts, mailings, and promotional items (bags, magnets, etc.) that the Farm Fresh Auction put out during 2010. In addition a website domain was secured, www.farmfreshauction.com and a website was established that laid out the auctions goals and objectives. Advertising and promotion of the market was heavy towards growers and buyers. Most of this advertising was direct calls and visits. Media coverage and print articles helped to spread the word. Billboards strategically located to target buyers also added to the promotions.

The Nashville Farmers' Market also enlisted the help of the Tennessee Department of Agriculture, Whole Foods, the Tennessee State University Land Grant College School of Agriculture, and major wholesalers in the area.

Achievement of goals:

The Wholesale Specialty Crop Auction is no longer being held at the Nashville Farmers' Market. This project did not achieve the desired effect for several reasons:

- A) The historic flood in Nashville that took place during 2010 filled the Nashville Farmers Market with flood waters, debris and problems. A large portion of the Farmers' Market was damaged and the area devoted to preparation and the implementation of the auction was eliminated for a time then reduced significantly overall. Also financial resources that the Farmers' Market was going to contribute to the auction had to be diverted because a large section of the Farmers' Market was closed.
- B) Many crops were lost due to the flood. Local produce was at a premium and market conditions were able to dictate that growers' did not need an added market nor auction to wholesale their product. The risk of having produce go bad was very low because of the scarcity of the product.
- C) Many growers could not handle the added task of transporting their produce to the farmers' market only to have a wholesaler try to retain all the "premium" that is attached to local produce without having to incur the "costs" of the local produce. While not intended, prices were discounted on produce sold through the auction.
- D) Many of the producers that were approached about the wholesale auction lost their space in the flood. These producers were initially receptive towards the idea but no longer had a space

- for operations. Many found other more productive local farmers' markets (Franklin, East Nashville, and Bellevue) that they were able to set up while the market was undergoing repairs.
- E) The extra processes, approvals, and delays encountered with this project conducted through the local metro government stalled and impeded the project from the start.

Results of the program:

The Farm Fresh Auction is no longer a part of the operational structure of the Nashville Farmers' Market. There are no plans to bring it back in the future. Although similar produce auctions have succeeded in rural areas of Kentucky and southern middle Tennessee, enough buyers and growers were not able or chose not to support this project. All other issues aside, transportation of sold product to buyers' businesses remains a substantial obstacle. Restaurateurs, chefs and others with a desire to buy significant quantities were not equipped to transport the purchases.

Progress made to achieve the long term outcome of the program:

While the Farm Fresh Auction did not succeed, it is an oversimplification of the project to refer to it as a failure. Many operations that market local specialty crops on a large retail level have local producers that they have dealt with for many years. The producer goes through a rigorous vetting process and a lengthy price negotiation and only then is that grower allowed to sell to a particular establishment. An adequate supply chain to wholesale "local" fruits and vegetables, that would allow these fruits and vegetables to be marketed as "local" and command the premium that "local" receives has not been established in Tennessee. The Farm Fresh Auction attempted to start that supply chain and shined a light on the challenges that the project would encounter if another entity, whether it was profit or non-profit, attempted to establish the supply chain.

Additional information:

No additional information is available at the time. The website is no longer operational and many of the principles that were involved in the project are no longer employed or associated with the Nashville Farmers' Market.

Contact Information for the Sub-recipient:

Jolie Yockey
Nashville Farmers' Market
900 Rosa L. Parks Blvd.
Nashville, TN 37208
615-880-2001

Project 8-Cooler Expansion for Wholesale Produce

Need for a grant:

The majority of Tennessee's wholesale produce production is situated within a two hour drive of the East Tennessee Regional Food Distribution Center (ETRFD) in White Pine, TN. In order for Tennessee specialty growers to get the maximum return for their product in a wholesale market, ETRFD had to expand their cooler to where it could chill many types of produce. To expand the cooler so it could chill many different types of produce and maintain this produce at optimal temperature would allow specialty crop growers to maximize their revenue and profit-margin.

Approach taken for the project:

In order to successfully turn the ETRFD into a location that could service the specialty crop growers of Tennessee, we contacted vendors and electricians in order to prepare a budget for the expansion. After we received all of the bids, we found an electric contractor and a refrigeration contractor and determined the cost of the expansion would be \$75,000.

When funding to assist ETRFD with its expansion was in place, ETRFD start contacting our farmers to not only let them know about the cooler expansion and the services we will soon be able to offer, but to also inform them about the need for a GAP audit and assist them with the preparation of the audit.

Achievement of goals:

The expansion of the project was completed in September 2010. The final cost of the investment was over \$100,000 as we made some upgrades over our initial projections. The total number of produce shipped using the cooling system in 2012 was up 26% over 2011 and totaled over 800,000 boxes of TN specialty crops. In addition to the boxes shipped, ETRFD was able to start retail packaging of specialty crops. In 2009, 92,000 "split" boxes were prepared for retail outlets, 2012's total was 265,000 boxes, an increase of 288%. The "split" boxes helped the specialty crop growers maximize their profits.







Results of the program:

The cooler expansion was a successful partnership between private enterprise and state and federal departments of agriculture. ETRFD is now open year round as opposed to the harvesting season we were open before the expansion. Over 15 producers in Tennessee, Virginia, and North Carolina are using the cooler.

Another area the cooler expansion was a success has been in the area of agricultural practices. ETRFD passed the Global Food Safety Initiative audit that enabled them to sell produce to Wal-mart. In addition, all of our farmers were able to pass GAP audits. As we open TN specialty crops up to new wholesale buyers, all of these buyers are requiring our farmers to pass the audit. As more buyers compete for specialty crops this enhances the price of the crops. As the growers see their incomes increase the cost of an audit and of implementing GAPs becomes less burdensome.

Progress made to achieve the long-term outcome of the program:

Funding from the SCBGP has enabled ETRFD to increase its presence in Tennessee. As we stated earlier, the business is now opened year round and is employing workers year round to help it assist the growers.

This funding also strengthened the relationships we have with our growers. By opening their produce to other markets and helping enhance agricultural practices with minimal costs, growers are utilizing our experience with marketing to maximize their income. By having such a close relationship with our growers, ETRFD is expanding our services and increasing our knowledge in food safety and agricultural practices.

Additional information:

[J & J Produce's home page](#)

Contact information for the sub-recipient:

J & J Produce
Ryan Pierce
1750 Garden Village Drive
Suite A
White Pine, TN 37890
865-761-4077

Project 9-Container Expansion for Nursery Export**Need for a grant:**

Heather Farms Nursery (HFN) in Morrison, TN is one of two nurseries in the United States who are shipping virus certified indexed container fruit trees and ornamental trees to Canada. HFN is the only nursery in the country that ships container woody ornamentals to the EU. This grant allowed HFN to expand their pad dedicated to nursery export. Expanding the pad would have several benefits:

- A) HFN would be able to export a greater variety of nursery crops to the EU and Canada.
- B) HFN would have a template that would allow other nurseries to set up a container pad for export.
- C) HFN would purchase liners from local growers.

Approach taken for the project:

HFN drew up the plans for the container pad, found a suitable location at the nursery, and received bids from local contractors in order to know the costs and the work involved. By the time the grant was approved and the contract was signed the nursery industry was being hit hard by the recession. The irrigation contractor who put in the winning bid went out of business and a new contractor had to be secured. By the time a new contractor was put in place the technology had changed and we were now able to invest more in our container pad.

Achievement of goals:

Initially we were estimating a cost for the container expansion at \$53,000. When we settled on a 2nd irrigation contractor after our first shut down operations we realized that we could use advanced technology to increase revenues. The total cost for the project was over \$100,000, the SCBG contributed \$30,000 and HFN made an investment of over \$70,000. This new technology is solely responsible for a total upgrade in the water control system which made the operation more efficient. HFN is now able to control water to all pads individually on a minute-by-minute basis and decoder stations can be set up almost anywhere on the nursery. Our new irrigation system is capable of expanding up to 2 miles from the control station. This correlates directly into more purchasing and shipping of specialty crops. HFN's unique marketing channels and approved vendor status in certain European markets, enables us to sustain demand for other growers' liner products. The grant –established container pad expansion increases the demand for those specialty crops.

Results of the program:

HFN container expansion has been beneficial to both the local economy and the nursery industry. HFN has increased employment and added 2 full-time employees and 4 part-time employees to its hourly payroll. In addition to the hourly employees, HFN is actively seeking a salaried container production manager.

The main effort of this initiative was to increase export opportunities for area specialty crop growers. This grant has accomplished this through increased sourcing of liner trees by 3,800 with 80% of these purchases coming from local producers and all of our purchases are made from US specialty crop producers. These purchases were all in the only growing season after completion that falls in the timeline for the SCBG.

Progress made to achieve the long-term outcome of the project:

HFN with the help of the SCBGP invested heavily in its nursery to increase local specialty crop producers' output and revenues while keeping cost in line. At the time of the grant we felt that the economic conditions would be improved to where the container pad would be running at optimal production by the time the grant ended. While economic conditions in the US and Canada have improved substantially,

Europe still faces great challenges. While every year during the SCBG we saw exports increase to Europe we have not achieved optimal revenue in the European market. We are increasing production of certified virus free products that are destined for Europe and Canada and our long term business model shows increased production every year for the foreseeable future.

While HFN has not held its field day, it has shown the pad to two representatives of the TN Department of Agriculture and several local producers. Totals have not been kept on the number of specialty crop producers who have come to see the pad but the manufacturer and the contractor have asked HFN to host several different showings of the pad. Seeing as so many nurseries have closed up and the ones that are remaining are not investing as heavily as they were, seeing the system in use is imperative in order to get growers to invest and HFN has accommodated every request to show the pad to any specialty crop grower and potential buyer. As the drought moved into July we did more request to see the container pad. We have shown these producers a blueprint to designing a container pad that is suitable for export and will assist any producer who requests it.

Additional information:

[Heather Farms Nursery | A Family of Dependability](#)

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